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EXAMINER	
THOMPSON, JAMES A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,658	CHIZAWA, NORIYOSHI	
	Examiner	Art Unit	
	James A Thompson	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-85 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-85 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 January 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claims 5 and 39 is unclear. Specifically, claim 5 states that "the data on image sensing characteristic is output from said image sensing apparatus to said image processing apparatus upon starting up said image sensing apparatus at least." Does Applicant mean that at least the image sensing apparatus is started up, along with possibly other apparatuses? Does Applicant mean that said image sensing apparatus is at least started up, thus allowing for the possibility of other functions being performed before the data on image sensing characteristic is output? Claim 39 contains similar language, but in method format, and is rejected for the same reasons. Applicant must alter the language of claims 5 and 39 to correct this problem.

For purposes of examining claims 5 and 39 over the prior art, Examiner interprets claims 5 and 39 to mean that other operations may occur at startup before, or in conjunction with, outputting the data on image sensing characteristic. This interpretation is supported by page 59, lines 3-17 of the present application since operations other than directly outputting the data are performed.

Prelude to Prior Art Rejections

4. Independent claims 1, 15, 34 and 41 are discussed together. The system of claim 1 performs the method of claim 34 and the steps of the computer product of claim 41. The limitations of claim 15 are embodied in claim 1.

Independent claims 42, 55, 68 and 71 are discussed together. The system of claim 42 performs the method of claim 71. The limitations of claims 55 and 68 are embodied in claim 42.

Independent claims 81 and 83 are discussed together. The computer program product of claim 83 performs the method of claim 81.

Independent claims 82 and 85 are discussed together. The computer program product of claim 85 performs the method of claim 82.

The following dependent claims are grouped together for discussion since they comprise the same limitations:

a. Claims 2-4 are discussed with claims 16-18, claims 29-31, and claims 35-37, respectively.

b. Claims 5 and 39 are discussed together.

c. Claims 6, 33, 40 are discussed together.

d. Claims 7-14 are discussed with claims 20-27, respectively.

e. Claims 19 and 32 are discussed together.

f. Claims 43 and 56 are discussed together.

g. Claims 44-51 are discussed with claims 57-64 and claims 72-79, respectively.

h. Claims 52 and 65 are discussed together.

i. Claims 53, 66 and 80 are discussed together.

j. Claims 54 and 67 are discussed together.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1, 5, 8, 15, 19, 21, 28, 32, 34, 38-39 and 41 are rejected under 35 U.S.C. 102(a) as being anticipated by Orito (US Patent 6,072,912).

Regarding claims 1, 15, 34 and 41: Orito discloses an image sensing system (figure 1(1) of Orito) constituted by connecting an image sensing apparatus (figure 1(30) of Orito) and image processing apparatus (figure 1(10) of Orito) (column 5, lines 4-7 of Orito). Figure 2 of Orito shows further details of said image processing apparatus

(column 4, lines 45-46 of Orito). Figure 5 of Orito shows further details of said image sensing apparatus (column 4, lines 50-52 of Orito).

Said image sensing apparatus comprises a storage medium (figure 5(73) of Orito) for holding data on image sensing characteristic (column 6, lines 29-34 of Orito); and an output unit (figure 5(77) of Orito) for outputting the data on image sensing characteristic held in said storage medium to said image processing apparatus (column 6, lines 6-14 of Orito).

Said image processing apparatus comprises an input unit (figure 2(24) of Orito) for receiving the data on image sensing characteristic output from said image sensing apparatus (column 6, line 66 to column 7, line 6 of Orito); a generation unit (figure 2 (17(portion)) of Orito) for generating image sensing characteristic correction data (column 8, lines 41-45 of Orito) on the basis of the data on image sensing characteristic received by said input unit (column 8, lines 48-53 of Orito); and an image sensing characteristic correction unit (figure 2(17(portion)) of Orito) for correcting an image sensing characteristic of image data received from said image sensing apparatus (column 8, lines 41-45 of Orito) using the image sensing characteristic correction data generated by said generation unit (column 8, lines 48-53 of Orito). Correcting an image sensing characteristic of image data received from said image sensing apparatus (column 8, lines 41-45 of Orito) inherently requires the generation in some form of said image sensing characteristic correction data in order to perform said correction. The control unit (figure 5(70) of Orito) comprises a CPU (figure 5(71) of Orito), a ROM (figure 5(72) of Orito), and a RAM (figure 5(73) of Orito) (column 6, lines 1-4 of Orito).

Said generation unit corresponds to the portion of the CPU, along with the associated program software stored in said ROM and the RAM needed to execute said program software, that is used to perform the functions of said generation unit. Said image sensing characteristic correction unit corresponds to the portion of the CPU, along with the associated program software stored in said ROM and the RAM needed to execute said program software, that is used to perform the functions of said image sensing characteristic correction unit.

Regarding claim 28: Orito discloses an image processing apparatus (figure 1(10) of Orito) which can be used upon being connected to an external image sensing apparatus (figure 1(30) of Orito) (column 5, lines 7-12 of Orito).

Said image processing apparatus comprises an input unit (figure 2(24) of Orito) for receiving the data on image sensing characteristic output from said external image sensing apparatus (column 6, line 66 to column 7, line 6 of Orito); and an image sensing characteristic correction unit (figure 2(17(portion)) of Orito) for correcting an image sensing characteristic of image data (column 8, lines 41-45 of Orito) received from the external image sensing apparatus (column 8, lines 16-18 of Orito) on the basis of the data on image sensing characteristic received by said input unit (column 8, lines 48-53 of Orito). The control unit (figure 5(70) of Orito) comprises a CPU (figure 5(71) of Orito), a ROM (figure 5(72) of Orito), and a RAM (figure 5(73) of Orito) (column 6, lines 1-4 of Orito). Said image sensing characteristic correction unit corresponds to the portion of the CPU, along with the associated program software stored in said ROM and the RAM

needed to execute said program software, that is used to perform the functions of said image sensing characteristic correction unit.

Regarding claims 5 and 39: Orito discloses that the data on image sensing characteristic is output from said image sensing apparatus to said image processing apparatus upon starting up said image sensing apparatus at least (figure 6 and column 7, lines 36-38 of Orito).

Regarding claims 8 and 21: Orito discloses that when the data on image sensing characteristic held in said storage medium is updated (column 7, lines 40-44 and lines 58-60 of Orito), said output unit outputs the updated data on image sensing characteristic to said image processing apparatus (column 8, lines 16-18 of Orito).

Regarding claims 19 and 32: Orito discloses that the data on image sensing characteristic is output from said image sensing apparatus to the external image processing apparatus in an initial communication there between (column 7, lines 36-44 of Orito).

Regarding claim 38: Orito discloses a communication step of sending data on image sensing characteristic held in advance in a storage medium (figure 5(73a) and column 7, lines 58-60 of Orito) of said image sensing apparatus to said image processing apparatus (column 8, lines 16-18 of Orito).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 3, 17, 30, 36, 42-44, 46, 49-50, 54-57, 59, 62-63, 67-69, 71-72, 74, 77-78 and 81-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613).

Regarding claims 42, 55, 68 and 71: Orito discloses an image scanning system (figure 1(1) of Orito) which comprises an image scanning apparatus (figure 1 (30) of Orito), an image processing apparatus (figure 1(10) of Orito), and a connection unit (figure 1(2) of Orito) that connects said image scanning apparatus and said image processing apparatus to be able to communicate with each other (column 5, lines 4-7 of Orito). Figure 2 of Orito shows further details of said image processing apparatus (column 4, lines 45-46 of Orito). Figures 4-5 of Orito shows further details of said image sensing apparatus (column 4, lines 49-52 of Orito).

Said image scanning apparatus comprises a light source (figure 4(52) of Orito) which can illuminate a document (column 8, lines 24-29 of Orito) and a white plate (figure 4(51) and column 7, lines 44-47 of Orito); an image scanning unit (figure 5(54) of Orito) for scanning an image on the document (column 8, lines 28-31 of Orito) and the white plate illuminated by said light source (column 7, lines 47-50 of Orito); and a controller (figure 5(70(portion)) of Orito) for controlling, at a system startup timing (column 7, lines 36-41 of Orito), to illuminate the white plate by said light source (column 7, lines 45-47 of Orito), scan the illuminated white plate by said image scanning unit (column 7, lines 47-50 of Orito), and transfer information corresponding to a value

obtained by scanning the white plate to said image processing apparatus via said connection unit (column 8, lines 16-18 of Orito). The control unit (figure 5(70) of Orito) comprises a CPU (figure 5(71) of Orito), a ROM (figure 5(72) of Orito), and a RAM (figure 5(73) of Orito) (column 6, lines 1-4 of Orito). Said controller corresponds to the portion of the CPU, along with the associated program software stored in said ROM and the RAM needed to execute said program software, that is used to perform the functions of said controller.

Said image processing apparatus comprises a color correction unit (figure 2 (17(portion)) of Orito) for executing a tone correction process (column 8, lines 41-44 of Orito) of an image scanned by said image scanning apparatus (column 8, lines 34-39 of Orito) using the information transferred from said image scanning apparatus (column 8, lines 47-53 of Orito). The control device (figure 2(17) of Orito) comprises a CPU (figure 2(18) of Orito), ROM (figure 2(19) of Orito), and RAM (figure 2(20) of Orito) (column 6, lines 59-63 of Orito). Said color correction unit corresponds to the portion of the CPU, along with the associated program software stored in said ROM and the RAM needed to execute said program software, that is used to perform the functions of said color correction unit.

Orito does not disclose expressly that said light source illuminates a reference member and that said reference member serves as a color reference; that said image scanning unit scans said reference member; and that said color correction unit executes a color correction process.

Arimoto discloses that a light source illuminates a reference member (figure 3(301P) and column 8, lines 59-63 of Arimoto), said reference member serving as a color reference (column 6, lines 41-43 of Arimoto); that said reference member is scanned (column 8, lines 60-67 of Arimoto); and executing a color correction process (column 20, lines 28-32 of Arimoto). Obtaining DV signals with a CCD and writing the read signals DV of the CCD output into a memory (column 8, lines 60-67 of Arimoto) is, by definition, scanning.

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to illuminate and scan a reference member that is a color reference and execute a color correction process, as taught by Arimoto. The motivation for doing so would have been that a reference member provides a reliable reference level since it is less likely to stain or discolor (column 6, lines 38-41 of Arimoto) and the color correction process will compensate for the density changes in the standard white plate (column 2, lines 27-29 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 42, 55, 68 and 71.

Regarding claims 81 and 83: Orito discloses a computer program product comprising a computer usable medium (figure 2(19) of Orito) having computer readable program code means embodied in said medium (column 7, lines 7-10 of Orito) for a color correction method for executing, in a system (figure 1(1) of Orito) which comprises a light source (figure 4(52) of Orito) which can illuminate a document (column 5, lines

44-45 of Orito) and a white plate (column 7, lines 45-47 of Orito), and scans an image on the document (column 8, lines 28-31 of Orito) and the white plate illuminated by said light source (column 7, lines 47-50 of Orito), a tone correction process of the scanned image (column 8, lines 41-44 of Orito).

Said product includes first computer readable program code means (column 7, lines 7-8 of Orito) for illuminating the white plate by said light source (column 7, lines 45-47 of Orito), and scanning the illuminated white plate (column 7, lines 47-50 of Orito) at a startup timing of said system (column 7, lines 36-37 of Orito). Said first computer readable program code means corresponds to the particular program code, among the various programs codes stored in ROM (column 7, lines 7-8 of Orito), that performs the functions of said first computer readable program code means.

Orito does not disclose expressly that said light source illuminates a reference member serving as a color reference; that said first computer readable program code scans said reference member at a startup timing of said system; that said system performs a color correction process of the scanned image using a color correction coefficient; and a second computer readable program code means for changing the color correction coefficient in accordance with a value obtained by scanning the reference member.

Arimoto discloses that a light source illuminates a reference member (figure 3(301P) and column 8, lines 59-63 of Arimoto) serving as a color reference (column 6, lines 41-43 of Arimoto); that said reference member is scanned (column 8, lines 60-67 of Arimoto) at a startup timing of the system (column 8, lines 59-60 of Arimoto).

Obtaining DV signals with a CCD and writing the read signals DV of the CCD output into a memory (column 8, lines 60-67 of Arimoto) is, by definition, scanning.

Arimoto further discloses executing a color correction process of a scanned image (column 20, lines 28-32 of Arimoto) using a color correction coefficient (column 20, lines 54-58 and equation 5 of Arimoto); and a computer readable program code means (figure 1(106) and column 5, lines 18-23 of Arimoto) for changing the color correction coefficient (column 21, lines 62-64 and equation 9 (in columns 21-22) of Arimoto) in accordance with a value (PaveR') obtained by scanning the reference member (column 21, lines 14-17 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to illuminate and scan a reference member to the obtain data needed to perform color correction using a color correction coefficient, as taught by Arimoto. The motivation for doing so would have been that a reference member provides a reliable reference level since it is less likely to stain or discolor (column 6, lines 38-41 of Arimoto) and the color correction process will compensate for the density changes in the standard white plate (column 2, lines 27-29 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 81 and 83.

Regarding claim 84: Orito discloses a computer program product comprising a computer usable medium (figure 2(19) of Orito) having computer readable program code means embodied in said medium (column 7, lines 7-10 of Orito) for a method of

controlling an image scanning apparatus (figure 1(30) of Orito) which can be connected to an external image processing apparatus (figure 1(10) of Orito) via a connection unit (figure 1(2) and column 5, lines 4-7 of Orito), comprises a light source (figure 4(52) of Orito) which can illuminate a document (column 5, lines 44-45 of Orito) and a white plate (column 7, lines 45-47 of Orito), and scans an image on the document (column 8, lines 28-31 of Orito) and the white plate illuminated by said light source (column 7, lines 47-50 of Orito).

Said product includes first computer readable program code means (column 7, lines 7-8 of Orito) for illuminating the white plate by said light source (column 7, lines 45-47 of Orito), and scanning the illuminated white plate (column 7, lines 47-50 of Orito) at a startup timing of said system (column 7, lines 36-37 of Orito). Said first computer readable program code means corresponds to the particular program code, among the various programs codes stored in ROM (column 7, lines 7-8 of Orito), that performs the functions of said first computer readable program code means.

Said product further includes a third computer readable program code means (column 7, lines 7-8 of Orito) for transferring information corresponding to the value obtained by scanning said white plate (column 7, lines 44-50 of Orito) to the external image processing apparatus (column 8, lines 16-18 of Orito). Said third computer readable program code means corresponds to the particular program code, among the various programs codes stored in ROM (column 7, lines 7-8 of Orito), that performs the functions of said third computer readable program code means.

Orito does not disclose expressly that said light source illuminates a reference member serving as a color reference; that said first computer readable program code scans said reference member at a startup timing of said system; and a second computer readable program code means for changing a color correction coefficient in accordance with a value obtained by scanning the reference member.

Arimoto discloses that a light source illuminates a reference member (figure 3(301P) and column 8, lines 59-63 of Arimoto) serving as a color reference (column 6, lines 41-43 of Arimoto); that said reference member is scanned (column 8, lines 60-67 of Arimoto) at a startup timing of the system (column 8, lines 59-60 of Arimoto). Obtaining DV signals with a CCD and writing the read signals DV of the CCD output into a memory (column 8, lines 60-67 of Arimoto) is, by definition, scanning.

Arimoto further discloses a computer readable program code means (figure 1(106) and column 5, lines 18-23 of Arimoto) for changing the color correction coefficient (column 21, lines 62-64 and equation 9 (in columns 21-22) of Arimoto) in accordance with a value (PaveR') obtained by scanning the reference member (column 21, lines 14-17 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to illuminate and scan a reference member to the obtain data needed to perform color correction using a color correction coefficient, as taught by Arimoto. The motivation for doing so would have been that a reference member provides a reliable reference level since it is

less likely to stain or discolor (column 6, lines 38-41 of Arimoto) and the color correction process will compensate for the density changes in the standard white plate (column 2, lines 27-29 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claim 84.

Regarding claims 82 and 85: Orito discloses a computer program product comprising a computer usable medium (figure 2(19) of Orito) having computer readable program code means embodied in said medium (column 7, lines 7-10 of Orito) for a tone correction method (column 8, lines 41-44 of Orito) in an image processing apparatus (figure 1(10) of Orito) which can be connected to an external image scanning apparatus (figure 1(30) of Orito) via a connection unit (figure 1(2) and column 5, lines 4-7 of Orito).

Said product includes first computer readable program code means (column 7, lines 7-8 of Orito) for receiving information from the external image scanning apparatus (column 8, lines 16-18 of Orito); second computer readable program code means (column 7, lines 7-8 of Orito) for receiving a scanned image from the external image scanning apparatus (column 6, line 66 to column 7, line 3 of Orito); and third computer readable program code means (column 7, lines 7-8 of Orito) for executing a tone correction process of the image using the information (column 8, lines 48-53 of Orito). Said first, second, and third computer readable program code means correspond to the particular program codes, among the various programs codes stored in ROM (column 7, lines 7-8 of Orito), that perform the functions of said first, second, and third computer readable program code means, respectively.

Orito does not disclose expressly that said image processing apparatus performs a color correction method; and said third computer readable program code means performs a color correction process of the image using the information.

Arimoto discloses performing a color correction process of the image (column 20, lines 28-32 of Arimoto) using reference information (column 21, lines 14-17 and equation 9 (in columns 21-22) of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform color correction using reference information, as taught by Arimoto. The motivation for doing so would have been that the color correction process will compensate for the density changes in the standard white plate (column 2, lines 27-29 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 82 and 85.

Regarding claims 3, 17, 30 and 36: Orito does not disclose expressly that said image sensing characteristic includes a characteristic for each of a plurality of colors to be sensed.

Arimoto discloses an image sensing characteristic for each of a plurality of colors (Bd1R,Bd1G,Bd1B) to be sensed (column 20, lines 54-57 and equation 5 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an

image sensing characteristic for each color, as taught by Arimoto. The motivation for doing so would have been to correct shading for each individual color (column 21, lines 4-8 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 3, 17, 30 and 36.

Regarding claims 43 and 56: Orito discloses that said controller transfers the correction information (column 8, lines 16-18 of Orito) obtained by scanning said white plate (column 7, lines 47-50 of Orito) to said image processing apparatus via said connector (column 6, line 66 to column 7, line 3 of Orito).

Orito does not disclose expressly that said information is a color correction coefficient corresponding to the value obtained by scanning the reference member.

Arimoto discloses that said information is a color correction coefficient (column 21, lines 62-64 and equation 9(in columns 21-22) of Arimoto) corresponding to the value obtained by scanning the reference member (column 21, lines 14-17 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to transfer the information, as taught by Orito, said information being the color correction information taught by Arimoto. The motivation for doing so would have been that the color correction information used in the color correction process will compensate for the density changes in the standard white plate (column 2, lines 27-29 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 43 and 56.

Regarding claims 44, 57 and 72: Orito discloses that the system startup timing corresponds to a power ON timing of said image scanning apparatus and said image processing apparatus (column 7, lines 36-38 of Orito).

Regarding claims 46, 59 and 74: Orito discloses that the system startup timing corresponds to a scan operation start timing of said image scanning apparatus (column 7, lines 36-38 of Orito).

Regarding claims 49, 62 and 77: Orito discloses that said image scanning apparatus further comprises a storage medium (figure 5(73) of Orito); and said controller stores the value obtained by scanning the white plate (column 7, lines 55-60 of Orito).

Orito does not disclose expressly the value stored by said controller in said storage medium is stored every time the number of scan times of the document reaches a predetermined value, and is a value obtained by scanning the reference member.

Arimoto discloses storing the value obtained by scanning the reference member (column 9, lines 1-5 of Arimoto) and storing said value every time the number of scan times of the document reaches a predetermined value (column 12, lines 28-32 of Arimoto). Since the correction is started every time the number of scan times of the document reaches a predetermined value (column 12, lines 28-32 of Arimoto), then the value obtained by scanning the reference member (column 9, lines 1-5 of Arimoto) must be stored since storing said value is a part of the correction process.

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the

invention, it would have been obvious to a person of ordinary skill in the art to obtain and store a new value obtained by scanning the reference member when the number of document scans has reached a predetermined value. The motivation for doing so would have been that, after a predetermined number of copies has been made, stains and other imperfections can affect the data quality (column 12, lines 33-35 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 49, 62 and 77.

Regarding claims 50, 63 and 78: Orito discloses that said image scanning apparatus further comprises a storage medium (figure 5(73) of Orito); and said controller stores the value obtained by scanning the white plate (column 7, lines 55-60 of Orito).

Orito does not disclose expressly the value stored by said controller in said storage medium is stored at a predetermined time interval, and is a value obtained by illuminating the reference member by said light source and scanning the reference member at said predetermined time interval.

Arimoto discloses storing the value obtained by illuminating the reference member with a light source (column 8, lines 59-63 of Arimoto) and scanning the reference member (column 9, lines 1-5 of Arimoto) and storing said value at a predetermined time interval (column 13, lines 14-18 of Arimoto). Since the correction is started every predetermined time interval (column 13, lines 14-18 of Arimoto), then the value obtained by scanning the reference member (column 9, lines 1-5 of Arimoto) must be stored since storing said value is a part of the correction process.

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to obtain and store a new value obtained by illuminating and scanning the reference member after a predetermined time interval. The motivation for doing so would have been that dust and other particles may enter the interior of the device and stain the optical system even if the system is idle (column 13, lines 6-11 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 50, 63 and 78.

Regarding claims 54 and 67: Orito discloses that said image scanning apparatus further comprises a storage medium (figure 5(73) of Orito); and said controller determines the correction data (column 7, lines 55-58 of Orito) in accordance with a value stored in said storage medium (column 7, lines 58-60 of Orito), and transfers the determined correction data to said image processing apparatus (column 8, lines 16-18 of Orito).

Orito does not disclose expressly that said correction data is a color correction coefficient.

Arimoto discloses correction data that is a color correction coefficient (column 20, lines 54-58 and equation 5 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store and

transfer the correction data, as taught by Orito, said correction data being the color correction coefficient taught by Arimoto. The motivation for doing so would have been to be able to perform shading correction for each color independently (column 20, lines 24-31 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 54 and 67.

Regarding claim 69: Orito does not disclose expressly that the information is a color correction coefficient.

Arimoto discloses that the information is a color correction coefficient (column 20, lines 54-58 and equation 5 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color correction coefficient for the information. The motivation for doing so would have been to be able to perform shading correction for each color independently (column 20, lines 24-31 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claim 69.

9. Claims 4, 9-14, 18, 22-27, 31 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613) and Kamisuwa (US Patent 6,728,008 B1).

Regarding claims 4, 18, 31 and 37: Orito does not disclose expressly an image sensor which has a plurality of photoelectric conversion element arrays for respectively

photoelectrically converting light of a plurality of colors, and the image sensing characteristic indicates spatial positional deviations of the plurality of colors of pixel signals obtained by said image sensor.

Arimoto discloses an image sensor (figure 21(1001) of Arimoto) which has a plurality of photoelectric conversion element arrays (figure 22(1103-1105) of Arimoto) for respectively photoelectrically converting light of a plurality of colors (column 19, line 68 to column 20, line 7 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an image sensor which converts light into a plurality of colors, as taught by Arimoto. The motivation for doing so would have been to be able to process color images (column 19, lines 61-68 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito.

Orito in view of Arimoto does not disclose expressly that the image sensing characteristic indicates spatial positional deviations of the plurality of colors of pixel signals obtained by said image sensor.

Kamisuwa discloses image sensing characteristics (figure 8(a,b,c,Ia,Ib,Ic) of Kamisuwa) which indicate spatial positional deviations of the plurality of colors of pixel signals obtained by said image sensor (column 8, lines 6-10 of Kamisuwa).

Orito in view of Arimoto is combinable with Kamisuwa because they are from the same field of endeavor, namely the correction of scanned digital image data. At the

time of the invention, it would have been obvious to a person of ordinary skill in the art to detect spatial positional deviations in the image scanning using image sensing characteristics, as taught by Kamisuwa. The motivation for doing so would have been that spatial positional deviations are errors in scanning (column 7, lines 46-52 of Kamisuwa), so it is naturally desirable that such errors be fixed. Therefore, it would have been obvious to combine Kamisuwa with Orito in view of Arimoto to obtain the invention as specified in claims 4, 18, 31 and 37.

Further regarding claims 9 and 22: Kamisuwa discloses an optical element (figure 2(OP) of Kamisuwa) which brings about a change in spatial positional deviation amount of the plurality of colors of pixel signals obtained by the plurality of photoelectric conversion element arrays of said image sensor (column 6, lines 12-20 of Kamisuwa), and the data on image sensing characteristic includes basic data (a,b,c) which indicates a basic amount of the positional deviation amount (column 8, lines 6-10 of Kamisuwa), and auxiliary data (Ia,Ib,Ic) which indicates a change characteristic of the positional deviation amount (column 8, lines 11-16 of Kamisuwa).

Further regarding claims 10 and 23: Kamisuwa discloses that said optical element is controlled or adjusted in accordance with a magnification of an image sensed by said image sensor (column 6, lines 7-9 and lines 12-15 of Kamisuwa).

Further regarding claims 11 and 24: Kamisuwa discloses that the data on image sensing characteristic includes data which indicates a relationship between actual positions at which light forms images on the plurality of photoelectric conversion element arrays, and design positions thereof (column 8, lines 6-10 of Kamisuwa).

Further regarding claims 12 and 25: Kamisuwa discloses that said image sensing apparatus further comprises an optical system (figure 2(OP) of Kamisuwa) for forming a document image on an imaging surface of said image sensor (column 4, lines 8-15 of Kamisuwa), and said image sensor senses the document image (column 4, lines 16-21 of Kamisuwa).

Regarding claims 13 and 26: Orito does not disclose expressly that said image sensor has the plurality of photoelectric conversion element arrays which are separated at a predetermined line spacing.

Arimoto disclose that said image sensor has the plurality of photoelectric conversion element arrays which are separated at a predetermined line spacing (figure 22(180μ) and column 20, lines 3-5 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an image sensor in which the plurality of photoelectric conversion element arrays are separated at a predetermined line spacing, as taught by Arimoto. The motivation for doing so would have been to provide an even dot-per-inch reading of a document (column 20, lines 8-11 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito to obtain the invention as specified in claims 13 and 26.

Further regarding claims 14 and 27: Kamisuwa discloses that the plurality of colors are three colors including red (R), green (G), and blue (B) (column 9, lines 17-21 of Kamisuwa), and the data on image sensing characteristic includes data indicating

spatial deviation amounts among R, G, and B pixel signals (column 8, lines 11-15 of Kamisuwa).

10. Claims 2, 6, 16, 29, 33, 35 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613) and Ohta (US Patent 5,875,260).

Regarding claims 2, 16, 29 and 35: Orito in view of Arimoto does not disclose expressly that the image sensing characteristic is a linearity characteristic.

Ohta discloses an image sensing characteristic (L*a*b* space) that is a linearity characteristic (column 4, lines 4-7 of Ohta).

Orito in view of Arimoto is combinable with Ohta because they are from the same field of endeavor, namely the correction of digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a linearity characteristic, such as the L*a*b* space taught by Ohta, as the image sensing characteristic. The motivation for doing so would have been that L*a*b* space is a standardized color space that has been provided by the CIE (column 4, lines 4-5 of Ohta). Therefore, it would have been obvious to combine Ohta with Orito in view of Arimoto to obtain the invention as specified in claims 2, 16, 29 and 35.

Regarding claims 6, 33 and 40: Orito in view of Arimoto does not disclose expressly that said generation unit generates the image sensing characteristic correction data by inversely converting the data on image sensing characteristic.

Ohta discloses generating image sensing characteristic correction data (R',G',B') by inversely converting the data on image sensing characteristic (column 5, lines 60-64 of Ohta).

Orito in view of Arimoto is combinable with Ohta because they are from the same field of endeavor, namely the correction of digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to inversely convert the data on image sensing characteristic, as taught by Ohta. The motivation for doing so would have been to obtain the image signals resulting from the image data correction in the original color space (RGB) (column 5, lines 61-63 of Ohta). Therefore, it would have been obvious to combine *** with *** to obtain the invention as specified in claims 6, 33 and 40.

11. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613), Kamisuwa (US Patent 6,728,008 B1), and Sugiura (US Patent 4,679,074).

Regarding claims 7 and 20: Orito in view of Arimoto and Kamisuwa does not disclose expressly that said image sensing apparatus further comprises updating means for, when an exchangeable unit including said image sensor is exchanged, updating the data on image sensing characteristic held in said storage medium in accordance with a characteristic of the unit.

Sugiura discloses updating means (figure 3(406) of Sugiura) for, when an exchangeable unit including said image sensor is exchanged (column 4, lines 5-6 of

Sugiura), updating the data on image sensing characteristic held in said storage medium in accordance with a characteristic of the unit (column 4, lines 6-13 of Sugiura).

Orito in view of Arimoto and Kamisuwa is combinable with Sugiura because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the updating means taught by Sugiura. The motivation for doing so would have been to compensate for the different properties of the different input devices (column 4, lines 10-13 of Sugiura). Therefore, it would have been obvious to combine Sugiura with Orito in view of Arimoto and Kamisuwa to obtain the invention as specified in claims 7 and 20.

12. Claims 47, 51-52, 60, 64-65, 70, 75 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613) and Sugiura (US Patent 4,679,074).

Regarding claims 51, 64 and 79: Orito discloses a storage medium (figure 5(73) of Orito) for storing the value obtained by scanning the white plate (column 6, lines 29-34 of Orito).

Orito does not disclose expressly that said storage medium stores the value obtained by scanning the reference member; and an initialization unit for initializing the value stored in said storage medium when the light source has been exchanged.

Arimoto discloses storing the value obtained by scanning the reference member (column 8, lines 60-67 of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the value obtained by scanning a reference member, as taught by Arimoto, in the storage medium taught by Orito. The motivation for doing so would have been that said reference patch can be used as a standard density measurement (column 6, lines 38-43 of Arimoto. Therefore, it would have been obvious to combine Arimoto with Orito.

Orito in view of Arimoto does not disclose expressly an initialization unit for initializing the value stored in said storage medium when the light source has been exchanged.

Sugiura discloses an initialization unit (figure 3(405) of Sugiura) for initializing the reference values when the light source has been exchanged (column 4, lines 6-10 of Sugiura).

Orito in view of Arimoto is combinable with Sugiura because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to initialize the reference values stored in the storage medium taught by Orito when the light source is exchanged, as taught by Sugiura. The motivation for doing so would have been to compensate for the different properties of the different input devices (column 4, lines 10-13 of Sugiura). Therefore, it would have been obvious to combine Sugiura with Orito in view of Arimoto to obtain the invention as specified in claims 51, 64 and 79.

Regarding claims 52 and 65: Orito discloses transferring image information to said image processing apparatus (column 8, lines 16-18 of Orito) via said connection unit (column 7, lines 4-6 of Orito).

Orito in view of Arimoto does not disclose expressly that, when said light source has been exchanged, said image scanning apparatus transfers light source exchange information indicating exchange of said light source to said image processing apparatus via said connection unit, and said image processing apparatus further comprises an informing unit for informing that said light source has been exchanged on the basis of the transferred light source exchange information.

Sugiura discloses that, when said light source has been exchanged, said image scanning apparatus transfers light source exchange information (selected correction table) indicating exchange of said light source (column 3, line 68 to column 4, line 2 of Sugiura); and an informing unit (figure 3(404) of Sugiura) for informing that said light source has been exchanged on the basis of the transferred light source exchange information (column 4, lines 5-10 of Sugiura).

Orito in view of Arimoto is combinable with Sugiura because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to transfer said light source exchange information, as taught by Sugiura, to said image processing apparatus via said connection unit, as taught by Orito, and inform with an informing unit that said light source has been exchanged, as taught by Sugiura. The motivation for doing so would have been to compensate for the different properties of the different

input devices (column 4, lines 10-13 of Sugiura). Therefore, it would have been obvious to combine Sugiura with Orito in view of Arimoto to obtain the invention as specified in claims 52 and 65.

Regarding claim 70: Orito in view of Arimoto does not disclose expressly an informing unit for informing the information upon receiving information indicating exchange of a light source from the external image scanning apparatus.

Sugiura discloses an informing unit (figure 3(404) of Sugiura) for informing the information upon receiving information indicating exchange of a light source from an external image scanning apparatus (column 4, lines 5-10 of Sugiura).

Orito in view of Arimoto is combinable with Sugiura because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to inform with an informing unit that said light source from an external image scanning apparatus has been exchanged, as taught by Sugiura. The motivation for doing so would have been to compensate for the different properties of the different input devices (column 4, lines 10-13 of Sugiura). Therefore, it would have been obvious to combine Sugiura with Orito in view of Arimoto to obtain the invention as specified in claim 70.

Regarding claims 47, 60 and 75: Orito discloses correction coefficients in accordance with the values obtained by scanning the white plate (column 5, lines 51-58 of Orito) and transferring said correction coefficients to said image processing apparatus as the information (column 8, lines 16-18 of Orito). Measuring white level

data (column 8, lines 48-50 of Orito) and black level data (column 8, lines 62-66 of Orito) is used for tone correction (column 9, lines 12-18 of Orito).

Orito does not disclose expressly that said image scanning apparatus holds a plurality of color correction coefficients which are measured in advance, and said controller selects a corresponding one of the plurality of color correction coefficients in accordance with the value obtained by scanning the reference member; and that said transferred correction coefficients are specifically color correction coefficients.

Arimoto discloses that said correction coefficients are specifically color correction coefficients (column 20, lines 24-28 of Arimoto); and that said color correction coefficients are in accordance with the value obtained by scanning the reference member (column 21, lines 14-17 and equation 9(in columns 21-22) of Arimoto).

Orito and Arimoto are combinable because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use color correction coefficients that are in accordance with the value obtained by scanning the reference member. The motivation for doing so would have been to correct shading for each individual color (column 21, lines 4-8 of Arimoto) and that a reference member provides a reliable reference level since it is less likely to stain or discolor (column 6, lines 38-41 of Arimoto). Therefore, it would have been obvious to combine Arimoto with Orito.

Orito in view of Arimoto does not disclose expressly that said image scanning apparatus holds a plurality of color correction coefficients which are measured in advance, and said controller selects one of a plurality of color correction coefficients.

Sugiura discloses that said image scanning apparatus holds a plurality of color correction coefficients which are measured in advance (figure 2A and column 4, lines 5-8 of Sugiura), and selecting one of a plurality of color correction coefficients (column 4, lines 7-13 of Sugiura). Since the color correction coefficients (figure 2A and column 3, lines 24-26 of Sugiura) are a matrix table that is selected based on the input device selection (column 4, lines 5-8 of Sugiura), then it is inherent that said color correction coefficients are measured in advance since said color correction coefficients are stored in the input correction device (figure 3(405) and column 4, lines 7-8 of Sugiura) before said selection is made (column 4, lines 6-8 of Sugiura).

Orito in view of Arimoto is combinable with Sugiura because they are from the same field of endeavor, namely digital image data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to hold a plurality of color coefficients which are measured in advance and select one of said coefficients, as taught by Sugiura, in accordance with the value obtained by scanning the reference member, as taught by Arimoto. The motivation for doing so would have been to compensate for the different properties of the different input devices (column 4, lines 10-13 of Sugiura). Therefore, it would have been obvious to combine Sugiura with Orito in view of Arimoto to obtain the invention as specified in claims 47, 60 and 75.

13. Claims 45, 48, 53, 58, 61, 66, 73, 76 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orito (US Patent 6,072,912) in view of Arimoto (US patent 5,371,613) and Taguchi (US Patent 5,771,106).

Regarding claims 45, 58 and 73: Orito in view of Arimoto does not disclose expressly that said image scanning apparatus has a state transition function of changing an apparatus state to a standby state in which power supply to at least one unit of said image scanning apparatus is shut off, and restoring from the standby state to a scan ready state of the document, and the system startup timing corresponds to a restoration timing from the standby state to the scan ready state of the document.

Taguchi discloses changing an apparatus state to a standby state in which power supply to at least one unit of said image scanning apparatus is shut off (column 16, lines 49-51 of Taguchi), and restoring from the standby state to a scan ready state of the document (column 16, lines 51-55 of Taguchi), and the system startup timing corresponds to a restoration timing from the standby state to the scan ready state of the document (column 16, lines 63-67 of Taguchi). Preliminarily lighting up the light source and fetching shading correction data (column 16, lines 63-67 of Taguchi) starts up the system since, afterwards, document scanning begins (column 16, lines 64-65 of Taguchi).

Orito in view of Arimoto is combinable with Taguchi because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to put said image scanning apparatus into a stand-by mode when said image scanning

apparatus is not in use, restore said image scanning apparatus from said stand-by state when said image scanning apparatus needs to be used, and set the time of restoration as the initial setup time for the system, as taught by Taguchi. The motivation for doing so would have been to suppress light quantity changes caused by temperature characteristics of the light source (column 16, lines 45-48 of Taguchi). Therefore, it would have been obvious to combine Taguchi with Orito in view of Arimoto to obtain the invention as specified in claims 45, 58 and 73.

Regarding claims 48, 61 and 76: Orito in view of Arimoto does not disclose expressly that, when the value obtained by scanning the reference member falls with a range that exceeds a pre-set threshold value, said image scanning apparatus fixes the color correction coefficient at a given value.

Taguchi discloses specifying maximum values for the reference values of each of the individual colors (column 15, lines 12-18 of Taguchi). Therefore, if a color is scanned in whose value exceeds said pre-set maximum values, said color value will be fixed to said pre-set maximum value.

Orito in view of Arimoto is combinable with Taguchi because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to set a maximum threshold value to which a scanned value is set if said scanned value exceeds said threshold value, as taught by Taguchi, said scanned value being the scanned reference member value taught by Orito. The motivation for doing so would have been that the range and gradation of the light source used to scan the data has to

be set (column 15, lines 21-24 of Taguchi). Therefore, it would have been obvious to combine Taguchi with Orito in view of Arimoto to obtain the invention as specified in claims 48, 61 and 76.

Regarding claims 53, 66 and 80: Orito discloses that said image scanning apparatus further comprises a storage medium (figure 5(73) and column 6, lines 29-34 of Orito).

Orito in view of Arimoto does not disclose expressly that, upon shutting off power supply to at least one unit of said image scanning apparatus, said controller controls to illuminate the reference member by said light source and to scan the illuminated reference member by said image scanning unit before the power supply shutoff, and stores the value obtained by scanning the reference member in said storage medium.

Taguchi discloses that, if the lamp is in the "cool" or previously off state, the correction data is read straight from the storage medium (RAM) (column 22, lines 9-11 of Taguchi) and then used to set the correction parameters (column 22, lines 11-13 of Taguchi). Therefore, the reference member must be illuminated and scanned before the power supply is shut off and the value obtained by scanning the reference member stored in said storage medium. Otherwise, there would be no correction data to read from said storage medium.

Orito in view of Arimoto is combinable with Taguchi because they are from the same field of endeavor, namely the correction of scanned digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to illuminate and scan said reference member, as taught by Orito, and store the thus

obtained data before the power is shut off so that said data can be read when the scanner is turned back on, as taught by Taguchi. The motivation for doing so would have been to be able to have correction data to perform shading corrections when the scanner is first turned back on. Therefore, it would have been obvious to combine Taguchi with Orito in view of Arimoto to obtain the invention as specified in claims 53, 66 and 80.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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James A. Thompson
Examiner
Art Unit 2624

JAT
13 September 2004

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